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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,050	06/29/2001	Michel G. M. Perbost	10991394-5	3224

7590

07/16/2002

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

CHAKRABARTI, ARUN K

ART UNIT PAPER NUMBER

1634

DATE MAILED: 07/16/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/895,050

Applicant(s)

PERBOST, MICHEL G. M.

Examiner

Arun Chakrabarti

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29,30 and 32-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *Detailed Action*.

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DETAILED ACTION

Election/Restriction

1. New claims 34 and 35 have been added. Applicant's argument to examine the claims 32 and 33 is persuasive and therefore is being examined in this office action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 29-30, and 32-35 are rejected under 35 U.S.C. 103 (a) over Baldeschwieler et al. (PCT International Application NO: WO 95/25116) (September 21, 1995) in view of Hirschbein et al. (U.S. Patent 5,859,233) (January 12, 1999).

Baldeschwieler et al teach an apparatus for fabricating an addressable array of biopolymers on a substrate according to a target pattern (Abstract), comprising:

(a) a deposition system which can separately dispense onto a substrate, fluid compositions of different biomonomers each with a first linking group which must be activated for linking to a substrate bound moiety, and a fluid composition of a solid activator (Claims 28 and 29 and Figures 2 and 4 and Example 1);

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(b) a processor to operate the deposition system, which processor derives from the target array pattern a target drive pattern for operating the deposition system to form the array, the target drive pattern including instructions to the deposition system to deposit the fluid composition of solid activator at each region at which a biomonomer monomer is to be deposited, separate from and preceding deposition of the biomonomer (Example 1, Page 19, lines 3-33 and Claims 28 and 29 and page 13, lines 16-21).

Baldeschwieler et al teach an apparatus wherein the deposition system comprises multiple jets which can dispense droplets of the different biomonomer fluid compositions and at least one pulse jet which can separately dispense the activator fluid composition, each jet including a chamber with an orifice, and including an ejector which, when activated, causes a droplet to be ejected from the orifice (Page 13, lines 3-34 and Figures 2 and 4).

Baldeschwieler et al teach an apparatus, wherein the intermediate steps are repeated with a deposition system comprising a head having a multiple pulse jets which can dispense droplets of the different biomonomer fluid composition (Claim 1 and Figure 2 and Page 16, line 18 to page 17, line 26).

Baldeschwieler et al teach a computer program product for use on an apparatus for fabricating an addressable array of biopolymer probes on a substrate according to a target array pattern, the program product comprising: a computer readable storage medium having a computer program stored thereon, which when loaded into a computer of the apparatus performs the steps described above (Page 19, lines 3-33).

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Baldeschieler et al do not teach the apparatus wherein sufficient time is allowed for evaporation to leave solid activator at the region and then depositing the biomonomer.

Hirschbein et al. teach the apparatus wherein sufficient time is allowed for evaporation to leave solid activator at the region (Example 2 and Column 12, lines 27-39 and Column 13, line 46 to Column 14, line 9). Although Hirschbein et al teach the mixing of activator and monomer simultaneously, MPEP 2144.04 further states, “*In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) Selection of any order of mixing ingredients is *prima facie* obvious”.

It would have been further *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to combine and substitute a method wherein sufficient time is allowed for evaporation to leave solid activator at the region of Hirschbein et al. into the method of Baldeschieler et al, since Hirschbein et al. state, “The use of very dry reagents and solvents during the synthesis of the monomers is very helpful to effect this end. This allows the use of less phosphorylating agent in the monomer syntheses and the generation of less of the impurity (Column 13, line 46 to Column 14, line 4). ” Hirschbein et al further state, “The method of the invention greatly improves product yields and reduces reagents usage over currently available methods for synthesizing the above class of compounds (Abstract, last sentence)”. By employing scientific reasoning, an ordinary artisan would have combined and substituted a method wherein sufficient time is allowed for evaporation to leave solid activator at the region of Hirschbein et al. into the method of Baldeschieler et al, in order to improve the synthesis of array of biomolecules. An ordinary practitioner would have been motivated to combine and substitute a

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method wherein sufficient time is allowed for evaporation to leave solid activator at the region of Hirschbein et al. into the method of Baldeschwieler et al in order to achieve the express advantages , as noted by Hirschbein et al., of an invention which provides the use of very dry reagents and solvents during the synthesis of the monomers that is very helpful and which allows the use of less phosphorylating agent in the monomer syntheses and the generation of less of the impurity and which greatly improves product yields and reduces reagents usage over currently available methods for synthesizing biopolymers.

Allowable Subject Matter

4. Claim 31 is allowed in view of the fact that no prior art of record either teaches or suggests a droplet of biomonomer fluid composition deposited at a region will cover an area greater than that covered by a preceding droplet of activator fluid composition at the same region.

Response to Amendment

5. In response to amendment, 112 (second paragraph) rejections as well as 102(b) rejections are hereby withdrawn. However, new 103 (a) rejection has been included.

Response to Arguments

6. Applicant's arguments with respect to all pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

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7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CAR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CAR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun Chakrabarti, Ph.D. whose telephone number is (703) 306-5818.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones, can be reached on (703) 308-1152.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group analyst Chantae Dessau whose telephone number is (703) 605-1237.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission via the P.T.O. Fax Center located in Crystal Mall 1. The CM1 Fax Center numbers for Technology Center 1600 are either (703) 305-3014 or (703) 308-4242. Please note

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that the faxing of such papers must conform with the Notice to Comply published in the Official Gazette, 1096 OG 30 (November 15, 1989).

Arun Chakrabarti
Patent Examiner
Art Unit 1634

July 5, 2002



W. Gary Jones
Supervisory Patent Examiner
Technology Center 1600